**11.2 and 11.3 Solving 1-Step Equations**

Name:\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson Focus:** In this lesson, Mathletes will be able to

**·model problems with equations**

**·solve equations and record the process**

**·verify solutions to equations**

**Power Words:**

**Opposite operation**

**·an operation that "undoes" another operation**

**·subtraction and addition are opposite operations**

**·multiplication and division are opposite operations**

**Opposites can sometimes be tricky to remember…let’s draw the opposite table:**

**Let’s Work Together:**

**Example #1 – Solving by inspection**

Use mental math to solve each equation.

b) 15 - *y* = 5

15 - \_\_ = 5

The solution is *y* = \_\_

a) *j* + 4 = 12

\_\_+ 4 = 12

The solution is *j* = \_\_

c) 17 = *d* - 9

17 =\_\_ - 9

The solution is *d* = \_\_

**Example #2 – Model and Solve a problem**

Taylor and her sister cycle 4 km to the shopping mall, then travel farther to where their mother works. If they cycle 11 km in total, how far is it from the mall to the office?

**Let ­­\_\_\_ represent the distance from the shopping mall to the office. Model the situation using cups and counters or a sketch of a balance.**

a) Model the situation.

Cups and Counters:

Sketch of a balance:

The situation can be modelled by the equation \_\_\_ + 4 = 11.

\_\_\_ + 4 = 11

\_\_\_ + 4 = 11

By inspection, the answer is \_\_\_.

The distance from the shopping mall to the office is \_\_\_ km.

b) Solve by inspection

**Let’s TRY THIS ONE:**

Suppose that Donovan Bailey could run at a constant speed of 9 m/s. The distance travelled is modelled by the formula *d* = 9*t*, where *d* represents distance, in metres, and *t* represents time, in seconds. How long would it take for him to run 900m?

How do we begin to solve this?

**GREAT** that we know so many ways so solve equations! But sometimes they get harder, and there are bigger numbers and more difficult operations….

Is there a **SUSPICIOUS PATTERN** that can help us out?

Let’s make up a few problems together and see if we can figure out a **little shortcut**☺

DID WE FIND THE PATTERN YET? IF SO…Let’s explain how it works

**PRACTICE our mad skillz**:

***ADDING AND SUBTRACTING MULTIPLYING AND DIVIDING***

*398*, #1–4, 6, 8, 9, 12, 13, Math Link *405*, #1-4, 6, 8, 10, 11, 13-15

Still Good? #14-18 Still Good? #16-18, 20

Pro Star? #19-22 Pro Star? #19, 21